UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,101	02/28/2002	Thomas Bayerl	1764 4000-06700	2744

28003 7590 08/11/2006

SPRINT
6391 SPRINT PARKWAY
KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER	
CHANKONG, DOHM	
ART UNIT	**PAPER NUMBER**
2152	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/086,101	BAYERL ET AL.	
	Examiner	Art Unit	
	Dohm Chankong	2152	

-- The MAILING DATE of this communication app ars on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1> This action is in response to Applicant's amendment and remarks, filed 5.23.2006. Claims 1, 3, 7 and 15 have been amended. Claim 2 is cancelled. Claims 1 and 3-15 are presented for further examination.

2> This is a non-final rejection.

Response to Arguments

3> Applicant's arguments with respect to amended claims 1 and 3-11 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 12-15 are persuasive and the rejections have been withdrawn. However, a new ground of rejection is submitted in light of new prior art.

4> Claims 5 and 11 were rejected in further view of an Official Notice. Applicant has not traversed this use of Official Notice. Therefore, the well known in the art statement is now taken as admitted prior art because Applicant has failed to traversed. See MPEP §2144.03(C).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5> Claims 1 and 3-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the claims cite storing and maintaining the memory contents of volatile memory during a reboot. However, as noted by Applicant in the remarks and in Applicant's specification, it is well accepted in the art that volatile memory will lose its contents when its power is interrupted, such as during a general reboot. The solution to this problem is what is known in the art as a soft or warm reboot whereby the period of interruption of power to the volatile memory is short enough to still maintain memory contents. The claim language, however, merely cites rebooting in general, which, as interpreted by one of ordinary skill in the art, would erase the contents of volatile memory. Thus, Applicant's claim language contradicts what is well known and accepted in the art. The claims should be amended to specifically state soft or warm rebooting as described in Applicant's specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6> Claims 3 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 3 cites checking for the existence of a trial run message. It is unclear whether this trial run message is in reference to the trial run message previously cited in claim 1. For the purposes of this action, the trial run message of claim 3 will be interpreted as referring to the trial run message of claim 1.

b. Claim 13 recites: "The method of claim 12...". Claim 12 does not recite a method.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7> Claim 12 is rejected under 35 U.S.C §102(e) as being anticipated by Kavanagh, U.S Patent No. 6.854.054

8> As to claim 12, Kavanagh discloses in a customer premises telecommunications hub:

storing a message in a volatile memory across a reboot process [abstract | Figure 4B | column 1 «lines 53-59» | column 5 «lines 43-55» | column 7 «lines 49-51» where : RAM is volatile memory and Kavanagh places a marking in the header of the RAM. Kavanagh's marking is analogous to Applicant's claimed message].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9> Claim 7 is rejected under 35 U.S.C § 103(a) as being unpatentable over Rasmussen, U.S Patent No. 6.640.334 in view of Huh et al, 6.584.559 ["Huh"].

10> Rasmussen discloses:

a nonvolatile memory having first and second memory sections as currently active [Figure 3 | Figure 6a where : active and inactive pages];

means for designating one of said first and second memory sections as currently active [Figure 3 | column 6 «line 46» to column 7 «line 5»];

means for receiving a new binary file and storing it in the memory section which is not designated as currently active [Figure 3 | column 6 «lines 1-45»];

means for rebooting said hub with the new binary file [column 6 «lines 35-45»]; and

designating the other of said first and second memory sections as currently active [Figure 4].

Rasmussen does not expressly disclose verifying proper operation of said new binary file.

11> Huh expressly discloses operating the device with the binary file and verifying proper operation of the binary file [Figure 3]. Huh also discloses designating the binary file as the current binary file for the hub after verifying proper operation of the binary file [Figure 3 «items 240, 244»]. Huh's invention provides a benefit of insuring that new software and features provided by the software run properly with the network device. If the network device fails to operate properly with the new software, a backup is utilized such that the network device is not effected by bad software. Thus, it would have been obvious to one of ordinary skill in the art to modify Rasmussen with Huh's testing means for the reasons stated.

12> Claims 1, 3, and 8 are rejected under 35 U.S.C § 103(a) as being unpatentable over Rasmussen, in view of Huh, in further view of Kavanagh, U.S Patent No. 6.854.054.

13> As to claim 1, Rasmussen discloses a method for downloading a configuration file in a customer premises data communications device comprising:

receiving a configuration file in a customer premises data communications device [column 3 «lines 29-45»];

loading the binary file into flash memory [abstract];

designating the binary file as the current binary file for the hub [claim 1].

While Rasmussen discloses a customer premises communications device, he does not explicitly disclose a hub. However hubs are well known communications devices and one of ordinary skill in the art would have been able to modify Rasmussen to incorporate

hubs (routers, modems or any other well known and ubiquitous communications device) into his invention. One would have been motivated to provide these devices so as to increase the functionality of Rasmussen's system by enabling compatibility with a wider variety of communications devices.

Rasmussen also does not explicitly disclose operating the device with the binary file and verifying proper operation of the binary file or storing a trial run message identifying the binary file in volatile memory.

14> In the same field of invention, Huh is directed towards updating firmware of network devices and utilizing multiple partitions to recover from booting or run-time errors [abstract | column 3 «lines 10-14»]. Huh expressly discloses operating the device with the binary file and verifying proper operation of the binary file [Figure 3]. Huh also discloses designating the binary file as the current binary file for the hub after verifying proper operation of the binary file [Figure 3 «items 240, 244»]. Huh's invention provides a benefit of insuring that new software and features provided by the software run properly with the network device. If the network device fails to operate properly with the new software, a backup is utilized such that the network device is not effected by bad software. Thus, it would have been obvious to one of ordinary skill in the art to modify Rasmussen with Huh's testing means for the reasons stated.

15> In the same field of invention, Kavanagh is directed towards memory management

for providing data storage across a reboot. Kavanagh expressly discloses storing a trial run message identifying a file in volatile memory [Figure 4B | column 1 «lines 53-59» | column 5 «lines 43-55» | column 7 «lines 49-51»]. It would have been obvious to one of ordinary skill in the art to incorporate Kavanagh's teachings into Rasmussen's system. Kavanagh improves Rasmussen by providing a means to maintain data persistence even using volatile memory such as random access memory instead of relying upon the more expensive non-volatile memory [column 1 «lines 18-29 and 54-56»].

16› As to claim 3, Rasmussen does not expressly disclose during rebooting, checking the volatile memory for the existence of a trial run message.

17› Kavanagh discloses during rebooting, checking the volatile memory for the existence of a trial run message [column 5 «lines 43-55»]. It would have been obvious to one of ordinary skill in the art to modify Rasmussen with Kavanagh's trial run message teachings. Kavanagh improves Rasmussen by providing a means to indicate primary and backup data in volatile memory.

18› As to claim 8, Rasmussen does not expressly disclose a volatile memory for storing a trial run message, means for, upon receipt of a new binary file, storing in said volatile memory a trial run message identifying the nonvolatile memory section in which said new binary file is stored and means for, upon rebooting, checking said volatile memory for the presence of a trial run message and, if present, operating said hub with the new binary file.

19> Huh discloses:

a non-volatile memory having a memory location designated for storing a trial run message [Figure 1 | column 2 «lines 20-35»];

means for, upon receipt of a new binary file, storing in said volatile memory a trial run message identifying the nonvolatile memory section in which said new binary file is stored [Figure 3 | column 5 «lines 11-40»]; and

means for, upon rebooting, checking said non-volatile memory for the presence of a trial run message and, if present, operating said hub with the new binary file [Figure 3].

Huh's invention provides a benefit of insuring that new software and features provided by the software run properly with the network device. If the network device fails to operate properly with the new software, a backup is utilized such that the network device is not effected by bad software. Thus, it would have been obvious to one of ordinary skill in the art to modify Rasmussen with Huh's testing means for the reasons stated.

Huh does not disclose storing the trial run message in volatile memory.

20> Kavanagh discloses storing the trial run message in volatile memory [Figure 4B | column 1 «lines 53-59» | column 5 «lines 43-55» | column 7 «lines 49-51»]. Kavanagh improves Rasmussen by providing a means to maintain data persistence even using volatile memory such as random access memory instead of relying upon the more expensive non-volatile memory [column 1 «lines 18-29 and 54-56»].

21> Claims 4, 6, 9 and 10 are rejected under 35 U.S.C § 103(a) as being unpatentable over Rasmussen, Huh and Kavanagh, in further view of Morgan et al, U.S Patent Publication No. 2002|0144187 ["Morgan"].

22> As to claim 4, Rasmussen, Huh and Kavanagh do not explicitly disclose verifying proper operation of the binary file by detecting the receipt of an acknowledgement message from an external server.

23> The "proper operation of the binary file" implies proper operation of the hub (or network device in Rasmussen's case). The receipt of an ACK from an external server implies that a test message was sent by the hub that is operating the binary file. It should be noted that there are several well known ways in the art for a network device to test or verify that it is properly running after an update/upgrade (i.e., that is, to correctly connected to the internet), such as sending out test messages or pinging a known address. Moreover the use of acknowledgement packets are ubiquitous in the art as a means for a sender to verify connection to a receiver. For example, Morgan discloses verifying network connections between network devices by sending a message and waiting for the subsequent response (ACK) [0037]. So while Rasmussen does not explicitly state how he would check if "updated versions of the firmware fail", it would have been obvious to one of ordinary skill in the art to have incorporated the ACK functionality between the update server and the client in Rasmussen's system as a means of verifying the proper operation of the new configuration file as taught by Morgan. This implementation is particularly relevant and expected in

Rasmussen because his devices are network devices and communication to external network devices such as a server would be necessary. Such an implementation is not novel as it is a well known technique in the art.

24> As to claim 6, Rasmussen, Huh and Kavanagh do not explicitly disclose verifying proper operation of the file by detecting receipt of a domain name from an external server.

25> Morgan discloses verifying network connections of devices by pinging a DHCP server (well known in the art that pinging a DHCP server results in a domain name) [0071]. It would have been obvious to one of ordinary skill in the art to incorporate Morgan's connection testing technique into Rasmussen's system to verify that the binary file has not corrupted operations of the network device.

26> As to claims 9 and 10 as they are claims to a hub that implement the steps of the method of claims 4 and 6, they are similarly rejected for reasons set forth above.

27> Claims 5 and 11 are rejected under 35 U.S.C § 103(a) as being unpatentable over Rasmussen, Huh, Kavanagh and Morgan, in further view of an admitted prior art [see MPEP §2144.03(C)].

28> As to claims 5 and 11, Rasmussen, Morgan and Synnestvedt do not explicitly disclose receiving a configuration file from an external server. However, these are obvious variations

(kinds of responses) to claims 4 and 6 and are related more to design choice rather than patentable distinction; that is, ACKs, configuration files or domain names are variations on the response received from a server, the absence of which would signal to a client that there is a problem with a recent upgrade. The variations do not represent an inventive step over what is commonly known in the art. Therefore, Official Notice is taken that one of ordinary skill in the art would have modified Rasmussen and Synnestvedt to incorporate the use of configuration files and domain names (suggested by Synnestvedt's DHCP and TFTP server) as a means to verify the proper operation of the network device after it has been upgraded by the configuration file. Such an implementation is not novel as it is a well known technique in the art and therefore is not inventive.

29› Claims 13 and 14 are rejected under 35 U.S.C § 103(a) as being unpatentable over Kavanagh, in view of Synnestvedt et al, U.S Patent No. 6.598.057 ["Synnestvedt"].

30› As to claim 13, Kavanagh discloses the method of claim 12, wherein:

said message is a trial run message identifying a new file stored in a memory location which has not been designated as the location of the currently active file [column 5 «lines 9-26» | column 7 «lines 47-63»].

Kavanagh does not disclose binary files. However, The use of binary files to configure or update devices is a well known skill in the art. For example, Synnestvedt discloses a binary configuration file for updating data communication devices [column 2 «lines 46-60»]. It would have been obvious to one of ordinary skill in the art to modify Kavanagh's file as a

binary file as taught by Synnestvedt. Implementation of Kavanagh's file as a binary file is well known in the art and is not an inventive step.

31> As to claim 14, Kavanagh discloses:

rebooting said hub, reading said trial run message, and operating said hub with said new binary file [column 3 «lines 31-32 | column 5 «lines 43-55»].

32> Claim 15 is rejected under 35 U.S.C § 103(a) as being unpatentable over Kavanagh and Synnestvedt, in further view of Huh.

33> As to claim 15, Kavanagh does not disclose:

verifying proper operation of said new binary file, and

after verifying proper operation of said new binary file, designating the new binary file as the currently active file.

34> Huh expressly discloses operating the device with the binary file and verifying proper operation of the binary file [Figure 3]. Huh also discloses designating the binary file as the current binary file for the hub after verifying proper operation of the binary file [Figure 3 «items 240, 244»]. Huh's invention provides a benefit of insuring that new software and features provided by the software run properly with the network device. If the network device fails to operate properly with the new software, a backup is utilized such that the

network device is not effected by bad software. Thus, it would have been obvious to one of ordinary skill in the art to modify Kavanagh with Huh's testing means for the reasons stated.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wu et al, U.S Patent No. 6.732.267;

Fiorella, III, et al, U.S Patent No. 6.834.384;

Marsh et al, U.S Patent No. 7.055.148;

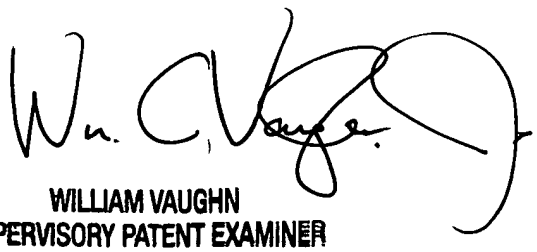
O'Neill, U.S Patent Publication No. 2003|0182414.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is 571.272.3942. The examiner can normally be reached on Monday-Thursday [7:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DC



WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100